

CLAIMS

1. A method of providing a medical gas to a patient in need thereof comprising providing said medical gas in a plurality of compressed gas cartridges containing an amount of said medical gas substantially corresponding to a unit dose of said medical gas for said patient, and providing said patient with means for accessing said medical gas from said plurality of compressed gas cartridges upon said need.

2. The method of claim 1 wherein said medical gas is pressurized to a pressure of up to about 2,000 psig.

3. The method of claim 2 wherein said medical gas is pressurized to a pressure of up to about 3,000 psig.

4. The method of claim 3 wherein said medical gas comprises N_2O .

5. The method of claim 4 wherein said N_2O is at least partially in the form of a liquid.

6. The method of claim 5 wherein said N_2O has a pressure fill limit of up to 750 psig.

7. The method of claim 6 wherein said N_2O comprises 100% N_2O .

8. The method of claim 3 wherein said medical gas comprises a mixture of medical gases.

9. The method of claim 8 wherein said mixture of medical gases has a predetermined maximum pressurization limit at a predetermined temperature when said mixture of medical gases remain in the gaseous state.

10. A method of providing a medical gas to a patient in need thereof comprising providing said medical gas from a compressed gas cartridge, releasing said pressurized medical gas into a chamber so as to reduce said pressure of said medical gas, and transferring said medical gas at said reduced pressure to said patient upon said need.

11. The method of claim 10 wherein said medical gas comprises a plurality of said medical gases, and including

mixing said plurality of said medical gases within said chamber.

12. The method of claim 10 including analyzing said medical gas at said reduced pressure and transferring said medical gas at said reduced pressure only if said analysis of said medical gas meets predetermined gas criteria.

13. The method of claim 12 including supplying ambient air to said patient instead of said medical gas at said reduced pressure if said analysis of said medical gas does not meet said predetermined gas criteria.

14. The method of claim 11 wherein said predetermined gas criteria comprise a predetermined oxygen content.

15. The method of claim 10 wherein said transferring of said medical gas comprises actuating release of said medical gas by inhalation by said patient.

16. The method of claim 15 wherein said actuating of said release of said medical gas comprises sensing said inhalation by said patient and releasing said medical gas when said sensor measures a predetermined inhalation pressure by said patient.

17. The method of claim 10 including timing said transferring of said medical gas to said patient.

18. The method of claim 17 including advising said patient when said timing has reached a predetermined time period.

19. The method of claim 18 wherein said advising of said patient comprises actuating an alarm.

20. The method of claim 17 including terminating said transferring of said medical gas to said patient when said timing has reached a predetermined time period.

21. The method of claim 10 including heating said medical gas prior to said transferring step.

22. The method of claim 10 wherein said providing of said medical gas from said compressed gas cartridge

includes at least a portion of said medical gas being in a liquid state.

23. The method of claim 22 including heating said medical gas at least partially in said liquified state prior to or during said transferring step to convert said medical gas to a gaseous state.

24. A method of providing a medical gas to a patient in need thereof comprising selecting a predetermined medical gas required by said patient, providing said predetermined medical gas in at least one compressed gas cartridge, and providing said patient with a means for accessing said medical gas from said at least one compressed gas cartridge only if said at least one compressed gas cartridge includes said predetermined medical gas.

25. The method of claim 24 wherein means for accessing said medical gas comprises a housing for accommodating only said at least one compressed gas cartridge including said predetermined medical gas.

26. The method of claim 24 wherein said predetermined medical gas comprises a gas selected from the group consisting of $N_2O/O_2/He$, N_2O/O_2 , $N_2O/O_2/N_2$, Xe/O_2 , $Xe/O_2/N_2$, and $Xe/O_2/He$.

27. Apparatus for the administration of a medical gas to a patient comprising a housing, a cassette associated with said housing containing a compressed gas cartridge containing at least an amount of said medical gas substantially as required for a single dose for said patient, and patient supply means for providing said medical gas to said patient.

28. The apparatus of claim 27 wherein said patient supply means comprises a patient interface.

29. The apparatus of claim 27 wherein said cassette is removably disposed within said housing.

30. The apparatus of claim 27 wherein said apparatus comprises a portable hand-held device.

31. The apparatus of claim 27 wherein said housing includes access means for providing access to said housing whereby said cassette may be inserted into or removed from said housing.

32. The apparatus of claim 31 wherein said access means comprises an upper portion of said housing and a lower portion of said housing separable from said upper portion of said housing and attachable thereto.

33. The apparatus of claim 31 wherein said access means comprises an openable and closable access member in said housing.

34. The apparatus of claim 33 wherein said openable and closable access member comprises a bottom portion of said housing.

35. The apparatus of claim 31 including connecting means for connecting said upper portion of said housing to said lower portion of said housing.

36. The apparatus of claim 35 wherein said connecting means comprises interconnecting threads on said upper and lower portions of said housing.

37. The apparatus of claim 36 including a plurality of said compressed gas cartridges containing an amount of a plurality of said medical gases substantially as required for a single dose of said plurality of said medical gases, and a cassette mountable within said housing, said plurality of compressed gas cartridges being mounted on said cassette.

38. The apparatus of claim 37 wherein said housing includes mounting means for mounting said cassette within said housing, said mounting means comprising first acceptance means and said cassette including second acceptance means, whereby said mounting means will only accept said cassette having predetermined second acceptance means which are compatible with said first acceptance means.

39. The apparatus of claim 38 wherein said first acceptance means comprises first key means including at least one member selected from the group consisting of a male member

and a female member, and said second acceptance means comprises second key means including at least one member selected from the group consisting of the other of said male member and said female member.

40. The apparatus of claim 39 wherein said first key means comprises a plurality of said first key means and said second key means comprises a corresponding plurality of said second key means.

41. The apparatus of claim 32 wherein said housing includes cassette mounting means for mounting said cassette within said housing, said cassette mounting means comprising first acceptance means and said cassette including second acceptance means, whereby said cassette mounting means will only accept said cassette having second acceptance means which are compatible with said first acceptance means.

42. The apparatus of claim 41 wherein said first acceptance means comprises first key means including at least one member selected from the group consisting of a male member and a female member, and said second acceptance means comprises second key means including at least one member selected from the group consisting of the other of said male member and said female member.

43. The apparatus of claim 42 wherein said first key means comprises a plurality of said first key means and said second key means comprises a corresponding plurality of said second key means.

44. The apparatus of claim 41 wherein said first acceptance means is mounted on said lower portion of said housing, said cassette includes an upper surface and a lower surface, and said second acceptance means is mounted at said lower surface of said cassette.

45. The apparatus of claim 44 wherein said cassette mounting means includes third acceptance means mounted at said upper portion of said housing and fourth acceptance means mounted at said upper surface of said cassette.

46. The apparatus of claim 45 wherein said third acceptance means comprises third key means including at least one member selected from the group consisting of a male member and a female member and said fourth acceptance means comprises fourth key means including at least one member selected from the group consisting of the other of said male member and said female member.

47. The apparatus of claim 46 wherein said third key means comprises a plurality of said third key means and said fourth key means comprises a corresponding plurality of said fourth key means.

48. Apparatus for the administration of a medical gas to a patient comprising a portable housing, a plurality of compressed gas cartridges associated with said portable housing containing a predetermined amount of said medical gas sufficient for normal respiration by said patient, and patient supply means for providing said predetermined amount of said medical gas to said patient.

49. The apparatus of claim 48 wherein said patient supply means comprises a patient interface.

50. The apparatus of claim 48 wherein said housing includes access means whereby said compressed gas cartridge may be inserted into and removed from said housing.

51. The apparatus of claim 50 wherein said access means comprises an upper portion of said housing and a lower portion of said housing separable from said upper portion of said housing and attachable thereto.

52. The apparatus of claim 50 wherein said access means comprises an openable and closable access member in said housing.

53. The apparatus of claim 52 wherein said openable and closable access member comprises a bottom portion of said housing.

54. The apparatus of claim 48 including a cassette, said compressed gas cartridge being sealed in said cassette, said housing including mounting means for mounting said

cassette within said housing, said mounting means comprising first acceptance means and said cassette including second acceptance means, whereby said mounting means will only accept said cassette having second acceptance means which are compatible with said first acceptance means.

55. The apparatus of claim 54 wherein said first acceptance means comprises first key means including at least one member selected from the group consisting of a male member and a female member and said second acceptance means comprises second key means including a member selected from the group consisting of the other of said male member and said female member.

56. The apparatus of claim 55 wherein said first key means comprises a plurality of said first key means and said second key means comprises a corresponding plurality of said second key means.

57. The apparatus of claim 48 wherein said compressed gas cartridge includes a cartridge body, a cartridge neck portion, and a puncturable sealing member closing said cartridge neck portion for sealing said medical gas within said cartridge, and further including cartridge opening means for releasing said medical gas from said compressed gas cartridge, said cartridge opening means comprising a puncturing member movable between a first position in which said puncturing member is displaced from said sealing member and a second position in which said puncturing member has punctured said sealing member.

58. The apparatus of claim 57 including puncturing member mounting means for mounting said puncturing member with respect to said compressed gas cartridge.

59. Apparatus for the administration of a medical gas to a patient comprising a housing, a compressed gas cartridge disposed within said housing and containing a predetermined amount of said medical gas sufficient for normal respiration by said patient, and patient supply means for providing said medical gas to said patient, said housing

including an upper portion and a lower portion connectable with said upper portion in a configuration in which said housing is closed, said compressed gas cartridge having a size and configuration whereby said housing may be closed with said compressed gas cartridge disposed within said housing and said compressed gas cartridge can supply said medical gas to said patient from said housing only when said housing is closed.

60. The apparatus of claim 59 including a cassette, said compressed gas cartridge being mounted on said cassette, said housing includes mounting means for mounting said cassette within said housing, said mounting means comprising first acceptance means and said cassette including second acceptance means, whereby said mounting means will only accept said cassette having second acceptance means which are compatible with said first acceptance means, and said housing can only close if said first acceptance means and said second acceptance means are compatible with each other.

61. The apparatus of claim 60 wherein said first acceptance means comprises first key means including at least one member selected from the group consisting of a male member and a female member and said second acceptance means comprises second key means including a member selected from the group consisting of the other of said male member and said female member.

62. The apparatus of claim 61 wherein said first key means comprises a plurality of said first key means and said second means comprises a corresponding plurality of said second key means.

63. The apparatus of claim 59 wherein said cassette includes a plurality of said compressed gas cartridges containing an amount of a plurality of said medical gases substantially as required for a single dose of said plurality of medical gases, said housing further including cassette mounting means for mounting said cassette within said housing, said cassette mounting means comprising first acceptance means and said cassette including second acceptance means, whereby

said mounting means will only accept said cassette having second acceptance means which are compatible with said first acceptance means, and wherein said housing can only close if said first acceptance means and said second acceptance means are compatible.

64. The apparatus of claim 63 wherein said first acceptance means comprises first key means including at least one member selected from the group consisting of a male member and a female member and said second acceptance means comprises second key means including at least one member selected from the group consisting of the other of said male member and said female member.

65. The apparatus of claim 64 wherein said first key means comprises a plurality of said first key means and said second key means comprises a corresponding plurality of said second key means.

66. The apparatus of claim 60 including gas delivery means in said upper portion of said housing for delivering said medical gas to said patient supply means.

67. The apparatus of claim 66 wherein said upper portion of said housing further includes gas control means for controlling said delivery of said medical gas to said patient supply means.

68. The apparatus of claim 66 wherein said gas delivery means includes a blender chamber for receiving said medical gas from said compressed gas cartridge at a predetermined pressure and flow rate.

69. The apparatus of claim 67 wherein said gas control means comprises a gas control sensor for sensing the content of said medical gas, and valve means for terminating said supply of said medical gas based on said sensed content of said medical gas.

70. The apparatus of claim 69 including room air breathing means, whereby upon said terminating of said supply of said medical gas said room air breathing means supplies room air for breathing by said patient.

71. The apparatus of claim 68 including gas control means for controlling said delivery of said medical gas to said patient supply means.

72. The apparatus of claim 71 wherein said gas control means comprises a gas control sensor for sensing the pressure of said medical gas entering said blender chamber, and valve means for terminating said supply of said medical gas based on said sensed pressure of said medical gas.

73. The apparatus of claim 72 including room air breathing means, whereby upon said terminating of said supply of said medical gas said room air breathing means supplies room air for breathing by said patient.

74. The apparatus of claim 72 wherein said gas control means comprises a second gas control means for sensing the pressure of said medical gas leaving said blender chamber, and wherein said valve means terminates said supply of said medical gas based on said sensed pressure of either said gas control means or said second gas control sensor.

75. The apparatus of claim 74 wherein said gas control means comprises an air inlet port for permitting air to enter said housing for delivery to said patient supply means and an air intake valve for controlling said entry of said air when said valve means terminates said supply of said medical gas.

76. Apparatus for the administration of a medical gas to a patient comprising a sealable housing, a cassette including a compressed gas cartridge sealed in said cassette and mountable within said housing when said housing is sealed, said compressed gas cartridge containing a predetermined amount of said medical gas, patient supply means for providing said medical gas to said patient, and gas delivery means for sealably delivering said medical gas from said compressed gas cartridge to said patient only when said housing is sealed.

77. The apparatus of claim 76 wherein said patient supply means comprises a patient interface.

78. The apparatus of claim 76 wherein said predetermined amount of said medical gas substantially corresponds to a unit dose of said medical gas for said patient.

79. The apparatus of claim 76 wherein said housing includes an upper portion and a lower portion, and connecting means for connecting said upper portion of said housing to said lower portion of said housing to thereby seal said housing.

80. The apparatus of claim 79 wherein said connecting means comprises first thread means at the lower end of said upper portion of said housing and corresponding second thread means at the upper end of said lower portion of said housing.

81. The apparatus of claim 80 including a sealing surface for providing a gas-tight seal against the upper end of said compressed gas cartridge, puncturing means for puncturing said sealing surface and releasing said medical gas from said compressed gas cartridge, and a slidable plug mounting said puncturing means for moving said puncturing means between a first position displaced from said sealing surface and a second position puncturing said sealing surface.

82. The apparatus of claim 81 wherein said upper portion of said housing includes gas input means for accepting said medical gas from said compressed gas cartridge and plug means mounted at the lower end of said upper portion of said housing whereby when said housing is sealed said plug means contacts said slidable plug thereby moving said puncturing means into said second position.

83. The apparatus of claim 82 wherein said upper portion of said housing includes gas delivery means for delivering said medical gas to said patient supply means.

84. The apparatus of claim 83 wherein said upper portion of said housing further includes gas control means for controlling said delivery of said medical gas to said patient supply means.

85. The apparatus of claim 84 wherein said gas delivery means includes a blender chamber for receiving said medical gas from said compressed gas cartridge at a predetermined pressure and flow rate.

86. The apparatus of claim 85 wherein said gas control means comprises a gas control sensor for sensing the content of said medical gas and valve means for terminating said supply of said medical gas based upon said sensed content of said medical gas.

87. The apparatus of claim 86 including room air breathing means, whereby upon said terminating of said supply of said medical gas said room air breathing means supplies room air for breathing by said patient.

88. The apparatus of claim 85 wherein said control means comprises a gas control sensor for sensing the pressure of said medical gas entering said blender chamber, and valve means for terminating said supply of said medical gas based on said sensed pressure of said medical gas.

89. The apparatus of claim 88 including room air breathing means, whereby upon said terminating of said supply of said medical gas said room air breathing means supplies room air for breathing by said patient.

90. The apparatus of claim 88 wherein said gas control means comprises a second gas control sensor for sensing the pressures of said medical gas leaving said blender chamber, and wherein said valve means terminates said supply of said medical gas based on said sensed pressure of either said gas control sensor or said second gas control sensor.

91. The apparatus of claim 86 wherein said gas control means further comprises an air intake port for permitting air to enter said housing for delivery to said patient supply means and air intake valve means for controlling said entry of said air into said housing.

92. The apparatus of claim 76 including a plurality of said compressed gas cartridges containing an amount of a plurality of said medical gases substantially required for a

single dose of said plurality of medical gases from said patient.

93. Apparatus for the administration of a medical gas to a patient comprising a housing, a removable compressed gas cartridge within said housing containing a predetermined amount of said medical gas, patient supply means for providing said predetermined amount of said medical gas to said patient, connection means for connecting said compressed gas cartridge with said patient supply means when said compressed gas cartridge is disposed within said housing for supplying said predetermined amount of said medical gas to said patient supply means, a pressure sensor for sensing the pressure of said medical gas released from said compressed gas cartridge, and control means for preventing delivery of said medical gas to said patient supply means based on the pressure sensed by said pressure sensor.

94. The apparatus of claim 93 wherein said patient supply means comprises a patient interface.

95. The apparatus of claim 93 wherein said control means comprises a control valve.

96. The apparatus of claim 93 wherein said housing comprises an upper portion and a lower portion, and including a connector for connecting said upper portion of said housing to said lower portion of said housing to provide a sealed housing when said upper portion of said housing and said lower portion of said housing are connected to each other.

97. The apparatus of claim 96 wherein said connector comprises first threads at the lower end of said upper portion of said housing and second interconnecting threads at the upper end of said lower portion of said housing.

98. The apparatus of claim 94 wherein said patient interface includes a patient output gas port.

99. Apparatus for the administration of a medical gas to a patient comprising a housing, a removable compressed gas cartridge within said housing containing a predetermined

amount of said medical gas, and a patient interface for providing said predetermined amount of said medical gas to said patient, said apparatus having an overall weight of less than about 48 ounces.

100. The apparatus of claim 99 having an overall weight of less than about 24 ounces.

101. The apparatus of claim 99 including a plurality of said compressed gas cartridges, each of said compressed gas cartridges containing a predetermined amount of said medical gas, and a cassette for insertion into said housing, said plurality of said compressed gas cartridges being mounted on said cassette and sealed within said cassette.

102. The apparatus of claim 101 wherein said housing includes access means whereby said cassette may be inserted into and removed from said housing.

103. The apparatus of claim 102 wherein said access means comprises an upper portion of said housing and a lower portion of said housing connectable with said upper portion of said housing to provide a sealed housing thereby.

104. The apparatus of claim 102 wherein said access means comprises an openable and closable door in said housing to provide a sealed housing thereby.

105. The apparatus of claim 104 wherein said openable and closable door comprises a bottom portion of said housing.

106. Apparatus for the administration of a medical gas to a patient comprising a housing, a removable cassette removably mounted within said housing, said removable cassette including at least one compressed gas cartridge containing a predetermined amount of said medical gas, patient supply means for providing said predetermined amount of said medical gas to said patient, mounting means for mounting said removable cassette within said housing, said mounting means comprising first acceptance means and said removable cassette including second acceptance means whereby said mounting means will only

accept said removable cassette having second acceptance means which are compatible with said first acceptance means.

107. The apparatus of claim 106 wherein said cassette includes a plurality of said compressed gas cartridges.

108. The apparatus of claim 107 wherein said first acceptance means comprises first key means including at least one member selected from the group consisting of a male member and a female member, and said second acceptance means comprises second key means including a member selected from the group consisting of the other of said male member and said female member.

109. The apparatus of claim 107 wherein said mounting means comprises a disk member including said first acceptance means, and a spindle rotatably mounting said disk member within said housing.

110. The apparatus of claim 109 wherein said mounting means includes a base mounted within said housing, said spindle being rotatably mounted on said base.

111. The apparatus of claim 110 wherein said disk member is removably mounted on said base, whereby said disk member can be removed from said housing and replaced by a different disk member having a different first acceptance means.

112. The apparatus of claim 111 wherein said cassette includes first indicia and said disk member includes corresponding second indicia for matching said cassette with said disk member.

113. The apparatus of claim 112 wherein said first and second indicia comprise coded colors.

114. The apparatus of claim 112 wherein said first and second indicia are selected from the group consisting of numbers and letters.

115. Apparatus for the administration of a medical gas to a patient comprises a housing including an upper portion and a lower portion, a removable cassette holding at

least one compressed gas cartridge within said housing, said at least one compressed gas cartridge including a predetermined amount of said medical gas, patient supply means for providing said predetermined amount of said medical gas to said patient, connection means for sealingly connecting said upper portion of said housing to said lower portion of said housing with said cassette within said housing, said connecting means including first upper connecting means disposed at said lower end of said upper portion of said housing, second upper connecting means disposed above said first upper connecting means on said upper portion of said housing, first lower connecting means disposed at the upper end of said lower portion of said housing, second lower connecting means disposed below said first lower connecting means on said lower portion of said housing, said first upper connecting means adapted to cooperatively engage said second lower connecting means to provide an intermediate closed configuration for said housing, and said second upper connecting means adapted to cooperatively engage said first lower connecting means to provide a sealed configuration for said housing, the distances between said first and second upper connecting means and said first and second lower connecting means being adapted so that said first upper connecting means engages said second lower connecting means before said second upper connecting means engages said first lower connecting means.

116. The apparatus of claim 115 wherein said housing includes cassette mounting means for mounting said removable cassette within said housing, said cassette mounting means comprising first acceptance means and said cassette including second acceptance means whereby said cassette mounting means will only accept said cassette having second acceptance means which are compatible with said first acceptance means.

117. The apparatus of claim 116 wherein said first acceptance means comprises first key means including at least one member selected from the group consisting of a male member

and a female member, and said second acceptance means comprises second key means including a member selected from the group consisting of the other of said male member and said female member.

118. The apparatus of claim 117 wherein said first key means comprises a plurality of said first key means and said second key means comprises a corresponding plurality of said second key means.

119. The apparatus of claim 118 wherein said compressed gas cartridge includes a puncturable sealing member for sealing said medical gas within said compressed gas cartridge, and further including compressed gas cartridge opening means for releasing said medical gas from said compressed gas cartridge, said compressed gas cartridge opening means comprising a puncturing member movable between a first position in which said puncturing member is displaced from said sealing member and a second position in which said puncturing member has punctured said sealing member.

120. The apparatus of claim 119 wherein said upper portion of said housing includes a contact surface for causing said puncturing member to move to said second position when said second upper contact member engages said first lower contact member to produce said sealed configuration for said housing.

121. The apparatus of claim 120 wherein each of said first and second upper and lower contact members comprise threads.

122. The apparatus of claim 121 wherein said cooperative engagement of said first upper contact member with said second lower contact member comprises threadable engagement in a first direction of rotation and said cooperative engagement of said second upper contact member with said first lower contact member comprises threadable engagement in a second opposite rotational direction.

123. The apparatus of claim 120 wherein said upper portion of said housing includes first alignment means and

said lower portion of said housing includes second alignment means adapted to cooperate with said first alignment means in order to properly align said upper and lower portions of said housing.

124. The apparatus of claim 123 wherein said first alignment means comprises a raised extension and said second alignment means comprises a corresponding slot adapted to receive said raised extension.

125. The apparatus of claim 123 wherein said first alignment means comprises a slot and said second alignment means comprises a raised extension adapted to fittingly engage said slot.

126. The apparatus of claim 123 including a plurality of said first alignment means and a corresponding plurality of said second alignment means.

127. Apparatus for the administration of a medical gas to a patient comprising a housing, a removable cassette within said housing, said removable cassette including a plurality of compressed gas cartridges sealed therein, each of said plurality of compressed gas cartridges including a predetermined amount of a portion of said medical gas, patient supply means for providing said medical gas to said patient, said housing including an upper portion and a lower portion connectable to said upper portion in a configuration in which said housing is closed, said removable cassette being mounted in said lower portion of said housing, and a plurality of gas connection members corresponding to said plurality of compressed gas cartridges and mounted in said upper portion of said housing whereby when said upper portion of said housing is connected to said lower portion of said housing said plurality of gas connection members connect said upper portion of said housing with said corresponding plurality of compressed gas cartridges.

128. The apparatus of claim 127 wherein each of said plurality of compressed gas cartridges includes a sealing

member for sealing said predetermined amount of said portion of said medical gas within said compressed gas cartridges.

129. The apparatus of claim 128 wherein each of said plurality of gas connection members includes puncturing means for puncturing said corresponding plurality of sealing members.

130. The apparatus of claim 129 wherein said upper portion of said housing includes a plurality of gas input ports for receiving said portions of said medical gas from said corresponding plurality of puncturing means.

131. The apparatus of claim 130 wherein said upper portion of said housing includes a blending chamber for receiving said portions of said medical gas from said plurality of gas input ports.

132. The apparatus of claim 131 wherein said upper portion of said housing includes a common feed tube for feeding said medical gas to said blending chamber.

133. Apparatus for the administration of a medical gas to a patient comprising a housing, a cassette mountable within said housing, said cassette including at least one compressed gas cartridge sealed therein containing a predetermined amount of said medical gas, patient supply means for supplying said predetermined amount of said medical gas to said patient, and gas delivery means for delivering said medical gas from said cassette to said patient supply means.

134. The apparatus of claim 133 wherein said gas delivery means includes gas control means for controlling said delivery of said medical gas to said patient supply means.

135. The apparatus of claim 134 wherein said gas delivery means includes a blender chamber for receiving said medical gas from said at least one compressed gas cartridge at a predetermined pressure and flow rate.

136. The apparatus of claim 135 wherein said gas control means comprises a gas control sensor for sensing the content or pressure of said medical gas, and valve means for

terminating said supply of said medical gas based on said sensed content or pressure of said medical gas.

137. The apparatus of claim 136 wherein said gas control means comprises an air inlet port for permitting air to enter said housing for delivery to said patient supply means and an air intake valve for controlling said entry of said air into said housing.

138. Apparatus for the administration of a medical gas to a patient comprising a housing, a compressed gas cartridge mountable within said housing containing a predetermined amount of said medical gas, and gas delivery means for delivering said medical gas from said compressed gas cartridge to said patient, said gas delivery means including a gas sensor for sensing a predetermined property of said medical gas, a blender chamber for receiving said medical gas from said compressed gas cartridge, a first valve for controlling the flow of said medical gas from said blender chamber to said patient and a second valve for controlling the flow of air into said housing for delivery to said patient, whereby said sensed value of said predetermined property of said medical gas controls said first and second valves for delivering either said medical gas or said air to said patient.

139. The apparatus of claim 138 wherein said gas sensor comprises an oxygen sensor for sensing the oxygen content of said medical gas.

140. The apparatus of claim 138 including alarm means for advising said patient if said gas sensor does not sense said predetermined property of said medical gas.

141. The apparatus of claim 138 including a patient output gas port for delivering said medical gas from said housing to said patient.

142. The apparatus of claim 138 including a demand valve for delivering said medical gas from said housing to said patient based upon the inhalation pressure created by said patient.

143. The apparatus of claim 142 including a face mask for sealing said gas delivery means directly to said patient's face.

144. Apparatus for the administration of a predetermined amount of a medical gas to a patient comprising a housing, at least one compressed gas cartridge mountable within said housing containing said medical gas, gas collection means for collecting said predetermined amount of said medical gas at a location separate from said at least one compressed gas cartridge, and gas delivery means for delivering said predetermined amount of said medical gas to said patient from said separate location.

145. The apparatus of claim 144 wherein said gas collection means comprises a blender chamber.

146. The apparatus of claim 145 including gas control means for controlling said delivery of said medical gas to said patient.

147. The apparatus of claim 146 wherein said gas control means comprises a gas control sensor for sensing the property of said medical gas entering said blender chamber and valve means for terminating said supply of said medical gas based upon said sensed value of said medical gas.

148. The apparatus of claim 147 including room air breathing means, whereby upon said terminating of said supply of said medical gas said room air breaching means supplies room air for breathing by said patient.

149. The apparatus of claim 148 wherein said gas control means comprises an air inlet port for permitting air to enter said housing for delivery to said patient and an air intake valve for controlling said entry of said air when said valve means terminates said supply of said medical gas.

150. The apparatus of claim 146 wherein said gas control means comprises a manual gas control member.

151. The apparatus of claim 150 wherein said manual gas control member is selected from the group consisting of a button, switch and lever.